Remarks

In the final Office Action of January 11, 2005, the Examiner rejected claims 1-9 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,949,757 to Katoh et al. ("Katoh") in view of U.S. Patent No. 5,646,943 to Elwalid ("Elwalid"). Applicant notes that although the Examiner did not include the rejection of claims 2-8 in the initial statement of the rejection on page 2 of the Office Action, the Examiner appears to reject each of these claims on pages 3-5 of the Office Action. Accordingly, Applicant will assume that these claims are included in the rejection under 35 U.S.C. § 103(a).

By this Amendment, Applicant proposes amending claims 1-4, 7, and 9 to improve form and canceling claims 5, 6, and 8 without prejudice or disclaimer. The rejection of claims 5, 6, and 8 is obviated by virtue of their cancellation. Additionally, by this Amendment, Applicant proposes adding new claims 10-12.

For the following reasons, Applicants respectfully traverse the rejections of claims 1-4, 7, and 9 based on Katoh and Elwalid.

Claim 1, as amended, is directed to an ATM multiplexing apparatus that includes detection means for detecting a congestion state corresponding to received ATM cells from the subscribers and outputting a level value corresponding to the congestion state, where the level value indicates an amount of congestion. The apparatus additionally includes discard means for selectively discarding the received ATM cells from the subscribers based on a communication state determined by ATM cells received from the ATM switching

unit and ATM cells received from the subscribers and based on the level value of the congestion state.

In rejecting claim 1, the Examiner contends that Katoh discloses many of the features recited in claim 1, but concedes that Katoh does not disclose a signal level value indicating an amount of congestion. (Office Action, page 3). For this feature, the Examiner relies on Elwalid.

Applicant submits that Katoh does not disclose or suggest, as the Examiner alleges, the discard means recited in claim 1. The discard means of claim 1 selectively discards the received ATM cells from the subscribers based on a communication state determined by ATM cells received from the ATM switching unit and ATM cells received from the subscribers and based on the level value of the congestion state.

Katoh is directed to a packet flow monitor control system in which a connection UPC (Usage Parameter Control) facility is provided for each of a number of ATM connections. (Katoh, Abstract). Katoh discloses a monitoring mode and a control mode, and when in the control mode, Katoh discloses discarding cells that are determined to be nonconforming cells. (Katoh, Abstract and col. 6, lines 33-45). Although Katoh discloses discarding cells, Katoh does not disclose or suggest discarding cells as performed by the discard means recited in claim 1. Katoh does not disclose or suggest, for instance, selectively discarding ATM cells based on a communication state determined by ATM cells received from the ATM switching unit and ATM cells received from the subscribers. Katoh completely fails to disclose or suggest any such

communication state. The nonconforming cells described by Katoh appear to be classified as nonconforming based on factors, such as buffer capacity and frequency of the nonconforming cells. (see Katoh, col. 17, lines 11-29). Katoh, however, does not disclose or suggest discarding cells based on a communication state determined by ATM cells received from the ATM switching unit and ATM cells received from the subscribers, as required by claim 1.

In addition to discarding cells based on the communication state, the discard means of claim 1 additionally recites discarding the received ATM cells based on the level value of the congestion state. Applicants submit that Katoh clearly does not disclose or suggest discarding cells based on the communication state recited in claim 1 and based on the level value of the congestion state recited in claim 1.

In the Office Action, the Examiner refers to col. 6, lines 33-60 of Katoh for disclosure of the discard means recited in claim 1 (Office Action, pages 2-3). This section of Katoh states:

> In the monitor mode, even when nonconformity (exceeding the monitor rate) is detected in a certain connection or connection group, cells that are transferred over that connection or connection group are entered into the ATM network as they are.
>
> In the control mode, on the other hand, the UPC/NPC facility performs the same monitoring operation as in the monitor mode and performs a process of discarding cells that are transferred over a connection for which nonconformity is detected or setting the priority of those cells low. When the leaky bucket control is performed in the control mode, the nonconforming cells are discarded or their priority is set low.
>
> When the transfer rate of cells that are transferred over the ATM connection #a exceeds the monitor rate set for that ATM

> connection, the UPC/NPC facility 21-a discards cells that exceeds its monitor rate or sets the priority of those cells low. In FIG. 3B, cells in the portions indicated by oblique lines are discarded or their priority is decreased. Which of the discarding and the priority control is to be performed is determined in advance. The UPC/NPC facilities 21-b and 21-c perform the same control on the ATM connections #b and #c, respectively. When the transfer rate of all of cells that are transferred over the ATM connections #a, #b and #c exceeds the sum of the monitor rates set for the ATM connections, the UPC/NPC facility 22 discards cells that exceed the sum of the monitor rates or decreases their priority.

As described in this section of Katoh, nonconforming cells may be discarded. The nonconforming cells appear to be detected as cells that exceed a monitor rate for a particular ATM connection. The discard means recited in claim 1, in contrast, selectively discards cells based on a communication state determined by ATM cells received from the ATM switching unit and ATM cells received from the subscribers and based on the level value of the congestion state.

For at least these reasons, Applicant submits that Katoh does not disclose or suggest the features recited in claim 1. Applicant has reviewed Elwalid, and submit that Elwalid also fails to disclose or suggest the discard means recited in claim 1. Accordingly, neither Katoh nor Elwalid, either alone or in combination, discloses or suggests each of the features recited in claim 1, and the rejection of this claim should therefore be withdrawn.

Claims 2-4 and 7 depend from claim 1. At least by virtue of the dependency of these claims from claim 1, Applicant submits that the rejection of these claims should be withdrawn.

Claims 2-4 and 7 recite additional features not disclosed or suggested by Katoh and Elwalid, either alone or in combination. Claim 2, for example, as

amended, recites that the communication state is updated on the basis of header information included in the received ATM cells from the ATM switching unit and header information included in the received ATM cells from the subscribers. The Examiner states that Katoh discloses this feature of the invention, and points to column 15, lines 1-15 (Office Action, pages 3-4). This section of Katoh states, among other things, that decisions relating to cell conformity/nonconformity are based on a parameter fetched from a parameter memory. Fetching a parameter from memory is not reasonably related to updating a communication state on the basis of header information included in received ATM cells from an ATM switching unit and header information included in the received ATM cells from subscribers. Accordingly, the rejection of this claim is also improper and should be withdrawn.

Independent claim 9 was also rejected under 35 U.S.C. § 103(a) based on Katoh and Elwalid. Claim 9, as amended, recites a method of discarding ATM cells comprising receiving ATM cells sent from subscribers and detecting a congestion state of the received ATM cells from the subscribers; updating a communication state determined based on the received ATM cells from the subscribers and based on the received ATM cells from an ATM switching unit; deciding, to obtain a decision result, whether discard processing of the received ATM cells from the subscribers is performed on the basis of the updated communication state and a level value of a signal indicating the congestion state, where the level value indicates an amount of congestion; and selectively performing the discard processing on the basis of the decision result.

Katoh and Elwalid, either alone or in combination, do not disclose or suggest the features recited in claim 9. Neither reference discloses, for example, updating a communication state determined based on received ATM cells from the subscribers and based on received ATM cells from an ATM switching unit. As previously discussed, Katoh completely fails to disclose or suggest such a communication state. Elwalid does not cure this deficiency of Katoh. Amended claim 9 further recites deciding, to obtain a decision result, whether discard processing of the received ATM cells from the subscribers is performed on the basis of the updated communication state and a level value of a signal indicating the congestion state. Applicant submits that neither Katoh nor Elwalid, include such a decision result.

Accordingly, the rejection of claim 9 is also improper and should be withdrawn.

New claim 10 is directed to an ATM multiplexing device including a discard control component and a detection component. Applicant submits that claim 10 is not disclosed or suggested by the prior art of record, either singularly or in combination. New claims 11 and 12 depend from claim 10 and are also not disclosed or suggested by the prior art of record.

Applicant respectfully requests that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 1-4, 7, and 9-12 in condition for allowance. Applicant respectfully points out that the final action by the Examiner presented some new arguments as to the application of the art against Applicant's invention. Additionally, Applicant submits that the entry of the

amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

In view of the foregoing amendments and remarks, Applicant respectfully requests the Examiner's reconsideration of this application, and the timely allowance of the pending claims.

To the extent necessary, a petition for an extension of time under 37 CFR 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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